

Date: Tue, 22 Jun 93 19:30:30 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #766
To: Info-Hams

Info-Hams Digest Tue, 22 Jun 93 Volume 93 : Issue 766

Today's Topics:

 "-Battery" vs. Natural Power
 1.2 GHz repeater - info sought
 Condo Communicator #5
 FD Sections Mods
 Field Day Publicity Article
 fragmentation of this group (2 msgs)
 Ground Rods In Concrete
 Radio Shack 2m HT Mods and Problems
 Two-Line Orbital Element Set: Space Shuttle
 uk.radio.amateur now exists!
 Yaesu 5100 scan memories

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 22 Jun 1993 20:17:29 GMT
From: topaz.bds.com!topaz.bds.com!ron@uunet.uu.net
Subject: "-Battery" vs. Natural Power
To: info-hams@ucsd.edu

> This, however, doesn't make sense to me. I interperate the spirit of the
> natural power rules as rewarding the ability to PRODUCE power independent of
> maines or fossil fuels, more or less INDEFINATELY.

Not indefinately, just for 5 QSO's. I always figured this was an ecology
type thing, not a practical emergency type thing. Had this been an actual
emergency I'd probably be using a mobile station.

I don't see the dilemma. Natural power says you have to use 5 contacts made from something natural. It has nothing to do with whether your main Field Day class is battery or not. What they are getting at that you can use a solar cell to charge up a battery, use it to make a QSO, and then let it charge up again. You can do this for your 5 Natural QSO's even if you are using a generator for everything else.

> So, should I interperate the "-Battery" rules as strictly as the Natural
> Power rules?

No, battery is just that, a storage device. Nothing said emergencies last for ever. This is however why Battery is a separate class, there's also classes for commercial power and home stations as well. You don't think that these are possibilities during an emergency? The last emergency I was in required portable operation but we had commercial power through the whole thing. There are times when you are going to have no power and able to use your fixed (home) station, etc... Probably one of the more reliable emergency power sources is a case full of alkaline cells from price club. You don't need to worry about getting more fuel for the generator or whatever...

> A battery is not a power source, and powering your rig from a
> battery says little about your preparedness for anything but the short term
> contingency.

Field day doesn't say much about preparedness for anything but a 24 hour emergency (with a year advanced notice), if it does that much. There are better emergency preparedness drills than Field Day. Last year everybody was too busy operating a contest than to follow good operating practice by avoiding QRM-ing the net serving the actual emergency going on.

-Ron

Date: 23 Jun 93 00:07:07 GMT
From: munnari.oz.au!metro!mippet.ci.com.au!eram!dave@tcgould.tn.cornell.edu
Subject: 1.2 GHz repeater - info sought
To: info-hams@ucsd.edu

In article <132683@netnews.upenn.edu>,
depolo@eniac.seas.upenn.edu (Jeff Depolo) writes:

| Anyone out there in netland have a 1.2 GHz repeater on the air? I'm
| looking for comments/suggestions for antennas and duplexers (if
| anyone makes them). Thanks.

gave some thought to the concept of matching. Just as it's important to match the impedance between different circuit components to maximize the transfer of power, it's important to have a good match between your ham radio activities and station requirements in order to maximize the pleasure you can derive from the hobby.

For example, if you enjoy providing telephone patches between overseas military personnel and their families stateside, you'll derive considerable pleasure from smoothing the radio links for troublefree communications. It certainly is no waste of money to purchase the best equipment available, including beam antennas, high and sturdy towers, and amplifiers to overcome any obstacles placed in your path by mother nature. In this case, there is a good match between the activity and the station, maximizing the pleasure derived.

But if you live in an apartment, you're going to face considerable frustration pursuing the same activity. Even with sensitive receiving apparatus and an amplifier, you'll not provide the same quality of communications as often as the fellow with the space for large antennas. The families you're trying to help will not be happy with the scratchy and fading signals. In addition, your neighbors will certainly not appreciate the RF overload into their televisions and other appliances, and they will quickly let you know of their displeasure. Given such a mismatch between the activity and the station, you'll not derive much pleasure.

On the other hand, if you enjoy just trying to get a signal out of a "covert" location, then living in that same apartment could provide a

great deal of fun indeed. Imagine the jollies I got when receiving a QSL card from a station I worked in Finland on 20 meters with less than a watt into an attic wire loop. Or the fun of building a small transmitter and getting it on the air, with no RFI and good, solid contacts. (So what if I had to seek troubleshooting advice from all my friends and loads of folks on Internet and packet?) The point is, there's a good match between my activities and station capabilities given the set of environmental restrictions within which I choose to live.

If you find operating from restrictive space frustrating, you may want to try reconciling your operations with your circumstances. If you

want to run overseas phone patches from your apartment, you can fight the unit's management to install a tower, fight your neighbors so you can run high power, make a scientific breakthrough in the science of wave propagation, move, abandon the hobby, or you can examine what you're doing to see if you can make any modifications to produce a better match with your station and operating restrictions.

TECHNICAL ADVICE

Dave, W8NF of Denver, Colorado, offers some advice about radio frequency interference. I had mentioned RFI problems with an old DX-20 transmitter. Connected to a dummy load, and sitting on top of the family TV, the DX-20 produces zero interference. But, just hook it up to the attic antenna and the TV picture gets wiped out, worst on channel 2 but bad enough on all the others.

Dave says:

1. Reduce RF currents on the coax. Wind the coax at the feedpoint to the antenna into a coil, about 5 or 6 turns at 6 to 8 inches diameter.
2. The signal from the antenna is probably coupling into the AC power lines, and from there it's saturating the TV tuner. Filter the TV's AC line. As the first element, use some series impedance, like a ferrite bead or coil.

I wonder what would be a good ferrite composition to use and if anything of the appropriate mix is sold that will just clamp over the AC cord. I've had no luck with the variety sold by Radio Shack. Anyway, for those of you having similar problems, give Dave's suggestions a try.

Some more technical advice from Dave regarding limited space antennas, who suggests using the G5RV design. As radiation from a wire antenna occurs at high current points, then it's important to get the middle of a center-fed antenna (the high-current point) as high as possible, and it's less important to get the ends as high. Neither is resonance as important as getting as much current as possible into the wire. If you're not overly concerned about directivity or radiation angle, and if you can match the thing, then you're getting current into it, and it'll emit a signal.

The G5RV antenna is essentially a configuration of wire that shows an SWR of less than 5:1 on all bands when no tuner is used. The G5RV is a center-fed, 102-foot wire. You feed it with ladder line that's

about 30 feet long (or $1/2$ a wavelength at 20 meters). Now you have an antenna that's $3/2$ wavelength of 20 meters and resonant on that band. Then, to the ladder line, attach your coax, first making a coaxial balun composed of 5 to 6 turns at about 6 to 8 inches in diameter. This produces an impedance at the transmitter side of the coax that most tuners can match from 80 through 10 meters.

If, like me, you don't have enough room in your attic for 102 feet of wire, even snarled, then Dave suggests cutting everything by half for an antenna you can match from 40 meters through 10 (with a tuner). That means a 51-foot length of wire, center fed, with the open wire feeder cut for about 15 feet (a half wavelength on 10 meters).

STATION DESCRIPTIONS

While we're on the topic, Dave will be using the G5RV design at his new house where the attic is larger. Currently, Dave lives in a house with two attics. His station is:

1. Tiny attic: 6/10/15 meter dipole. Also works on 12 and 10 meters. No tuner. 10 watts. No RFI.
2. Larger attic: 40-meter dipole, with center point as high as possible and the ends "bent, twisted and gnarled in whatever shape needed to get the thing to fit." Tuner used. Won't match on 80 or 20, but operates on 40, somewhat on 15.

When Dave fires up the SB-220 amp, however, his garage door goes up and down!

As you know, I've asked folks who live in buildings higher than two stories to send in their station descriptions. While no one living in on the 20th floor of an apartment has sent in anything yet, Howard Miller, N9RUI of Skokie, IL, near Chicago, has sent in a description of his third-floor setup.

Howard uses an inverted vertical. It's made of thin magnet wire and is 35 feet long. With a small stone weight on one end, it's lowered from the window and blends in nicely with the brickwork on the side of the building and can't be seen. Howard has taped two counterpoise wires in opposite directions to the inside wall near the floor of his apartment. With this setup and a one-watt HW-8 Heathkit rig, Howard

has worked into Indiana on 40 meters.

Howard's inverted vertical works fine from his third-story perch. I wonder how height affects the signal pattern of a vertical. Is the low-angle radiation of a vertical enhanced by being elevated? Although the building would block a good part of the signal, would an inverted vertical hanging from the 40th floor of a high-rise radiate as well in the free-space direction as an inverted vertical nearer to the ground? And what does inverting the vertical do to the signal pattern? Some of you antenna wizards write in and let us know. You could be helping a high-rise ham.

The newsletter is pretty short this month. After all, it's only as long as you make it. So, if you'd like more station descriptions and less editorializing from me, then send your notes, ideas, station description, war stories, editorials, and so on to me at:

Condo Communicator #5

Page 3

CompuServe: 72064,374
Internet: awinterb@du.edu
Packet: n0oqs @ w0ljf.#neco.co.usa
US Snail: Art Winterbauer
10047 E. Mexico Ave.
Denver, CO 80231

Also, listen for snippets of this newsletter on Hap Holly's (KC9RP) Radio Amateur Information Network (RAIN), heard on various nets or by direct dialup (708-299-INFO, no charge except for long-distance costs).

73,72. Art.

Condo Communicator #5

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Art Winterbauer N00QS

Internet: awinterb@du.edu OR awinterb@diana.cair.du.edu

Packet: n0oqs @ w0gvt.#neco.co.usa

Date: Tue, 22 Jun 1993 22:37:03 GMT

From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!

darwin.sura.net!sgiblab!sgigate!odin!chuck.dallas.sgi.com!adams@network.UCSD.EDU
Subject: FD Sections Mods
To: info-hams@ucsd.edu

Gang,

here are a couple of mods to the previous postings:

call area - section

3 - MDC for Maryland-DC (not MD)
6 - SDG for San Diego (not SDGO)

VE - PQ (not QUE), ON (not ONT), and NWT (not YU)

thanks to VE5VA for these. these from the official ARRL Field Day list.
and they should know.

73 es gl de k5fo dit dit

--

"This is UNIX(tm)! I know this." - Lex in Jurassic Park in front of
SGI workstation.

Chuck Adams, K5FO - CW spoken here....70+ wpm
adams@sgi.com

Date: 23 Jun 1993 02:19:55 GMT
From: w1gsl@athena.mit.edu
Subject: Field Day Publicity Article
To: info-hams@ucsd.edu

Here is the text of an article submitted to the Boston Globe.
A slightly edited version appeared in the Sunday 20 June issue.

It and a simmilar article published last year explain Field Day
and Ham Radio and invite the public to visit. A list of over 25
local FD QTHs followed. Last year the article was very well
received. In fact one of the local cable news orgs used it
practially verbatium as voice over for their video coverage
of the Billerica MA club.

Feeel free to use this as you can, please give W1BG credit
if you use it intact...

73 Steve F

W1GSL

Next weekend, June 26 and 27, local Radio Amateurs will be participating in the annual Field Day exercise sponsored by the American Radio Relay League. Field Day is fun with a purpose: it's an emergency communications drill disguised as a combination radio contest and public awareness exhibit. Hams try to contact as many other stations as possible in a 24 hour period. Their performance is scored by a set of rules tilted to favor temporary stations set up in parks and other areas with easy public access. Local radio clubs will begin putting up their Field Day stations late Saturday morning, and you're invited to drop by to see what the hobby is all about.

Ham radio is primarily about electronics and communications. In exchange for passing an FCC sanctioned exam, radio amateurs are given access to a wide range of operating frequencies and communications modes. Hand held walkie talkies are probably what the general public sees most often, but these are primarily for local (5 to 50 miles) communication. Field Day operations are typically centered around short wave transceivers with world wide capabilities. Voice transmission modes are a favorite with many operators, but morse code is a close second choice because of its reliability under marginal conditions.

Ham radio is also about contests, and Field Day is one of the oldest. It's designed to encourage hams to assemble the equipment and skills needed for emergency communications. That means being independent of commercial power and the sophistication of a permanent home station. The event is scored, with points being awarded for each radio contact. There's also a system of bonus points awarded for operation with different modes and transmitter power ranges. Low power sets earn more points because they're more representative of a true emergency setup. They're also easier to move, easier to run from batteries, and can be put on the air with less fuss. Bonuses are awarded as well for using alternative energy sources (solar, wind, or even muscle power!), contacts via computer and amateur satellites, and for having public information displays. Hams see Field Day as a good excuse to get outside for a weekend of picnicking and radio. For the public it's a wonderful opportunity to learn more about this fascinating hobby.

Field Day stations will be sprouting up all over the area on Saturday morning. Open fields and hill tops are a favorite spot because they make antenna erection easier. Many clubs also favor town parks and shopping malls because of increased publicity and

visitor access. The following is a list of locations to be used by some of the larger radio clubs in the Boston area. You're encouraged to drop by and visit any of them during the contest (which runs from 2 PM Saturday until 2 PM Sunday). Many stations will be on the air around the clock, so there's no such thing as too late at night or too early in the morning!

- Text by Penn Clower, W1BG

Date: 23 Jun 1993 00:07:13 GMT
From: nothing.ucsd.edu!brian@network.UCSD.EDU
Subject: fragmentation of this group
To: info-hams@ucsd.edu

Yes, the result of the vote WAS posted, but it never appeared here at UCSD in the ham radio groups. I did see a response to it in one of the other groups I read, and went looking for it in news.groups (which I don't normally read). Dave Lawrence of UUNET happens to be sitting at the terminal next to me (here at USENIX) and I watched him create the new groups, so they're real.

I have no idea why the result wasn't posted here; if Ian or one of those people DID post it, it never made it to UCSD.

I haven't decided what I'm going to do about the associated mailing lists yet. There's no hurry (it's only USENET!) and I want to do the right thing.

- Brian

Date: Wed, 23 Jun 1993 01:16:53 GMT
From: usc!howland.reston.ans.net!agate!news.ucdavis.edu!othello.ucdavis.edu!
ez006683@network.UCSD.EDU
Subject: fragmentation of this group
To: info-hams@ucsd.edu

Hi Brian,

I decided to email rather than post because you will probably get a ton of mail about this. :-) The results were posted in all rec.radio.* groups that I read. That was about two or three weeks ago. I didn't post the results naturally but I did see them.

73

Dan--

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*-----*
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
*                      Internet: DDTODD@ucdavis.edu             *
*                      Snail Mail: 1750 Hanover #102            *
*                      Davis CA 95616                          *
*-----*
*      I do not speak for the University of California....    *
*      and it sure as hell doesn't speak for me!!            *
*-----*

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Date: 22 Jun 93 23:01:23 GMT
From: news-mail-gateway@ucsd.edu
Subject: Ground Rods In Concrete
To: info-hams@ucsd.edu

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>In article <C8zqDH.3In@news.claremont.edu> aross@jarthur.claremont.edu (Andrew M. Ross) writes:

>>

>>Putting ground rods through or into concrete is a Bad Thing. I've heard
>>stories about concrete slabs (usually tower bases) that exploded when
>>lightning hit.

>

>This is an old wives' tale Andrew.

You are wrong Gary. My brother bought a house that had a concrete pad with a 4" pipe sticking up out of it. Originally it was installed to mount the dish for a TVRO reciever, that the previous owner took with him. He (my brother) decided that this 4" pipe was a perfect thing to mount his CB vetical, so he dropped a another pipe into this one, (it dropped in six feet) went up 30 feet and installed his vertical.

About a month ago he incured a direct lightning hit to the vertical. The concrete exploded! Great chunks of concrete flew over the top of his roof and landed in the street. It cracked his swimming pool. It melted his pipe/tower in half. It cracked the foundation on his house and on his neighbors house, and blew out his elctrical distribution panel, damaged most of the electrical appliances in the house including his dishwasher and garbage disposal, even though these were obviously grounded. Looks to me that the path was through the tower to the concrete base, through the ground and into the house wiring VIA its grounding! (before someone flames me, the current actually flows from the earth to the sky in a lightning strike, but we observe it as though it's the other way 'round)

As you have pointed out elsewhere, when concrete cures, there is alot

of entrapped water that doesn't enter the chemical reaction. This free water is one of the very things that makes concrete a good conductor. The trouble is, during a lightning strike the high heat turns the water into steam, and the intense pressure caused by the entrapped steam causes the concrete to burst violently. Same as when lightning strikes a tree. It's not the electricity that cuts the tree in half, the tree splits due to steam pressure.

>Any conductor sufficient to conduct
>the surge current when in air or soil is even better when embedded in
>concrete. Only in cases where there are *no* conductors embedded in
>the concrete can the resistance to the surge be high enough to cause
>heating that will "explode" the concrete.

Wrong again. Think about it. 10,000-100,000,000 amps through a 1-5 ohm resistor is going to have to dissipate one heck of a lot of power. It does this in the concrete base by making steam. Also, even a relatively small conductor (small like a 1/2" rebar) will conduct all this current until it melts in two, and by then the surrounding air is ionised enough to sustain the discharge.

You could maybe distribute the load by paralleling a bunch of ground connections, but if you observe lightning paths, you'll see that even when several paths to ground exist the discharge will prefer ONE, seemingly for no apparent reason, so you still loose.

>The one thing concrete is
>*not* is a good insulator to lightning surges. As a general rule, you
>should always use conductors in concrete tower bases, rebar will do,
>as part of your ground system. See my posting about Ufer grounds for
>details.

>

>Gary

>

>--

>Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
>Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
>534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
>Lawrenceville, GA 30244				

>

>-----

>

Gary, working in destructive testing you should know better. I'm not saying that conductors placed in concrete are not good electrical grounds, you're very correct on that point. Ufer grounds are excellent, but remember they're intended to prevent relatively small discharges from setting off bombs, not to dissipate a lightning strike. I've seen this exploding concrete thing and I'm a believer!!

--

Dr TS Kelso
tkelso@afit.af.mil

Assistant Professor of Space Operations
Air Force Institute of Technology

Date: Tue, 22 Jun 1993 22:28:15 +0000
From: pipex!bnr.co.uk!demon!llondel.demon.co.uk!dave@uunet.uu.net
Subject: uk.radio.amateur now exists!
To: info-hams@ucsd.edu

At last! Looks like uk.radio.amateur has appeared. Not sure exactly *when*
cos I was on holiday when it happened, but it seems to be there now.

So, to all UK amateurs (and other interested parties) reading this - how
about posting an "I'm here" message in there to get the group under way
and to prove you are receiving it OK.....

Dave

* G4WRW @ GB7WRW.#41.GBR.EU AX25 * You think *you* have problems? *
* dave@llondel.demon.co.uk Internet * What do you do if you *are* *
* g4wrw@g4wrw.ampr.org Amprnet * a manically depressed robot?? *

Date: 22 Jun 93 21:38:44 GMT
From: microsoft!wingnut!nigelt@uunet.uu.net
Subject: Yaesu 5100 scan memories
To: info-hams@ucsd.edu

Does anyone know how to use the 1L and 1U band limit memories on a Yaesu 5100?
I've got the L and U pair to do what it says they should do and I thought that
the 1L and 1U pair did the same thing but for a different freq range. Apparently
not.

If I set L and U for one range and 1L and 1U for another range then start scanning
from the
1L freq, the scan goes up to the 1U freq but restarts at the L freq not the 1L
freq

Reply here or email me direct: nigelt@microsoft.com

Date: Tue, 22 Jun 1993 22:20:19 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!news.ucdavis.edu!othello.ucdavis.edu!

ez006683@network.UCSD.EDU

To: info-hams@ucsd.edu

References <01GZN07EBAE8002EPC@UWSTOUT.EDU>, <C90Ho9.E7F@ucdavis.edu>,
<k7_x52p@dixie.com>1

Subject : Re: TV vs Cable. Why Pay for a FREE Signal

John De Armond (jgd@dixie.com) wrote:

: ez006683@othello.ucdavis.edu (Daniel D. Todd) writes:

: >The broadcast stations add value to the cable company,
: >therefore they should get some money for the service they provide. that
: >argument is like saying that since the theatres make lots of money
: >selling milkduds and ju-ju fruits and the studios make lots of money by
: >endorsing products therefore we should get into movies for free.

: Hey, that's a pretty good argument. Apparently a number of theatres think
: so too. There are any number of second run theatres here in atlanta
: that charge 50 cents admission. Pretty close to free. and there are
: a bunch more that charge a buck. Think of the 50 cent admission as the
: Morris Code of movie theatres, designed to keep the riff-raff out.

I wish the movie theatres around here would do that. Since the entire
town is based on the University I doubt they would sell any tickets in
the first run house if they showed second runs for \$.50. Then again I can
count the number of movies I've watched at the theatre more than once on my
two hands.

: The rest of your argument was pretty stupid and was deleted.

I love you too honey. :-)

Dan

--

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*-----*
* Daniel D. Todd      Packet: KC6UUD@WA6RDH.#nocal.ca.usa      *
*                    Internet: DDTODD@ucdavis.edu              *
*                    Snail Mail: 1750 Hanover #102              *
*                    Davis CA 95616                            *
*-----*
*      I do not speak for the University of California....    *
*      and it sure as hell doesn't speak for me!!            *
*-----*
```

Date: Tue, 22 Jun 1993 22:08:47 GMT
From: dog.ee.lbl.gov!overload.lbl.gov!agate!news.ucdavis.edu!othello.ucdavis.edu!
ez006683@network.UCSD.EDU
To: info-hams@ucsd.edu

References <9306220046.AA1ccc@catapult.anatcp.rockwell.com>,
<C8zzyu.4zC@ucdavis.edu>, <1993Jun22.153924.27214@ke4zv.uucp>
Subject : Re: Broadcast IDs

If different companies can own stations with the same first 4 letters and
get a suffix appropriate for the different service can someone pay to have
the mutations on their call held by the FCC? Ie. If CBS didn't have a
KCBS-TV could they prevent someone else from getting it?

Curious Kids Care,
Dan

--

* Daniel D. Todd Packet: KC6UUD@WA6RDH.#nocal.ca.usa *
* Internet: DDTODD@ucdavis.edu *
* Snail Mail: 1750 Hanover #102 *
* Davis CA 95616 *

* I do not speak for the University of California.... *
* and it sure as hell doesn't speak for me!! *

Date: Tue, 22 Jun 93 20:07:59 GMT
From: netcomsv!netcom.com!netcomsv!vitsemi!rob@decwrl.dec.com
To: info-hams@ucsd.edu

References <C8qHGq.679@srngenprp.sr.hp.com>, <1993Jun17.065844.2290@ke4zv.uucp>,
<fred-mckenzie-180693173804@k4dii.ksc.nasa.gov>
Subject : Re: SB200 power supply problems - help please.

In article <fred-mckenzie-180693173804@k4dii.ksc.nasa.gov> fred-
mckenzie@ksc.nasa.gov (Fred McKenzie) writes:
>In article <1993Jun17.065844.2290@ke4zv.uucp>, gary@ke4zv.uucp (Gary
>Coffman) wrote:
>> This is a novel approach to the problem. However, I think the reason
>> commercial designers don't do this is that most rectifier diodes aren't
>> built to operate as zeners and some junction damage occurs when the
>> reverse voltage threshold is exceeded. The damage is often cumulative,
>> and ultimately results in a failed diode.
>

>Your concern about the "damage" being cumulative, has
>no basis in fact. Zener action in diodes, as well as in the junctions of
>transistors, is a normal phenomenon that is fairly well understood. As
>long as the heat generated in the device doesn't exceed its capability to
>disipate it, no damage will occur. A rectifier diode is usually rated so
>that the zener voltage is higher than its PRV.

You are both correct. Do not use rectifier diodes like you would zeners.
As Gary says, you can damage the device. There are two types of breakdown
in p-n junction diodes: zener breakdown and avalanche multiplication. Zener
breakdown is non-destructive. Avalance multiplication can be. Avalanching
generally has a different I-V characteristic from zener breakdown. Unless
a device is designed to have zener breakdown, it may avalanche first.

Fred's comments about zener diodes are correct. You need to limit the
current through them to avoid damage. Current mirror circuits work
well for biasing them. Analog designers avoid using zeners in amplifiers
due to their noise characteristics.

73!
Rob KD6VYW

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Rob Eccles KD6VYW | Disclaimer: The statements made here do not
rob@vitsemi.COM | represent my employer or anyone else.

End of Info-Hams Digest V93 #766
